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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,801	08/18/2003	Sanjay Bhanot	RTS-0678US	4755

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EXAMINER	
ASHEN, JON BENJAMIN	
ART UNIT	**PAPER NUMBER**
1635	

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/643,801	BHANOT ET AL.	
	Examiner	Art Unit	
	Jon B. Ashen	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-57* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. § 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 C.F.R. §§ 1.821-1.825 for the reason(s) set forth below. Page 58 of the specification discloses nucleotide sequences that lack associated SEQ ID NO's. Appropriate correction is required and must be included as part of any response to this requirement for restriction.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-17, 22 and 41-48, drawn to a compound 8-80 nucleobases in length targeted to a nucleic acid molecule encoding diacylglycerol acyltransferase 2, that inhibits the expression of diacylglycerol acyltransferase 2, classified in class 536, subclass 24.5.

II. Claims 18, 23-40 and 49-57, drawn to a method of inhibiting the expression of diacylglycerol acyltransferase 2 in cells or tissues or an animal comprising contacting or administering with the compound of claim 1 or claim 4, classified in class 514, subclass 44.

III. Claims 19-20 are drawn to a method of screening for a modulator of diacylglycerol acyltransferase 2, classified in class 435, subclass 6.

IV. Claim 21 is drawn to a method for identifying the presence of diacylglycerol acyltransferase 2 in a sample using as least one of the primers comprising SEQ ID NO: 6 or 7 or the probe comprising SEQ ID NO: 8, classified in class 435, subclass 91.2.

3. Claim 1 link(s) the various inventions of group I that are the individual antisense oligonucleotide sequences listed by SEQ ID NO: in claim 41 and also the inventions of claims 42-48. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim(s), claim 1. Claims 1 and 42-48 link the various inventions of claim 41, that are the individual antisense oligonucleotide sequences listed. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction

requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

4. Groups I and IV are further restricted as follows:

5. Claims 21 and 41 are subject to an additional restriction since each is not considered to be a proper genus/Markush. See MPEP 803.02 - PRACTICE RE MARKUSH-TYPE CLAIMS - If the members of the Markush group are sufficiently few in number or so closely related that a search and examination of the entire claim can be made without serious burden, the examiner must examine all the members of the Markush group in the claim on the merits, even though they are directed to independent and distinct inventions. In such a case, the examiner will not follow the procedure described below and will not require restriction. Since the decisions in In re Weber, 580 F.2d 455, 198 USPQ 328 (CCPA 1978) and In re Haas, 580 F.2d 461, 198 USPQ 334 (CCPA 1978), it is improper for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. In re Harnish, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and Ex parte Hozumi, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984). Broadly, unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility.

Claim 21 specifically claims a method of identifying the presence of diacylglycerol acyltransferase 2 in a sample using at least one of SEQ ID NO's 6-8. Although the

instant oligonucleotide sequences claimed in claim 21 each target the same gene, the instant oligonucleotide sequences are considered to be unrelated, since each oligonucleotide sequence claimed is structurally and functionally independent and distinct for the following reasons: each oligonucleotide sequence has a unique oligonucleotide sequence, each oligonucleotide sequence targets a different and specific region of a nucleic acid molecule encoding diacylglycerol acyltransferase 2, and each oligonucleotide upon binding to a nucleic acid molecule encoding diacylglycerol acyltransferase 2, will act as either a forward or reverse PCR primer (SEQ ID NO: 6-7) or as a hybridization probe (SEQ ID NO: 8). As such the Markush/genus of probe/primer sequences in claim 21 are not considered to constitute a proper genus, and are therefore subject to restriction.

Claim 41 specifically claims a compound 8-80 nucleobases in length targeted to a nucleic acid molecule encoding diacylglycerol acyltransferase 2, comprising the SEQ ID NO's as listed in each claim. Although the instant antisense sequences claimed in claim 41 each target the same gene, the instant antisense sequences are considered to be unrelated, since each antisense sequence claimed is structurally and functionally independent and distinct for the following reasons: each antisense sequence has a unique nucleotide sequence, each antisense sequence targets a different and specific region of a nucleic acid molecule encoding diacylglycerol acyltransferase 2, and each antisense sequence, upon binding to a nucleic acid molecule encoding diacylglycerol acyltransferase 2, functionally decreases the expression of the gene to varying degree (per applicants' Tables in the specification). As such the Markush/genus of antisense

sequences in claim 41 are not considered to constitute a proper genus, and are therefore subject to restriction. Applicant is required, in response, to identify which of the target regions as set forth in claims 42-48, linked by claim 1, corresponds to the elected SEQ ID NO.

Furthermore, a search of more than one (1) of the antisense sequences claimed in claims 21 and 41 presents an undue burden on the Patent and Trademark Office due to the complex nature of the search and corresponding examination of more than one (1) of the claimed antisense sequences. MPEP 808.02 states in part: Where the related inventions as claimed are shown to be distinct under the criteria of MPEP 806.05(C) - 806.05(i), the examiner, in order to establish reasons for insisting upon restriction, must shown by appropriate explanation one of the following:

(C) A different field of search: Where it is necessary to search for one of the distinct subjects in places where no pertinent art to the other subject exists, a different field of search is shown, even though the two are classified together.

It is noted that a search of the available sequence databases produces a listing of references disclosing the sequence most similar to the query sequence. This is the "place" where the examiner searches for prior art. The prior art relating to another query sequence will not be found in this "place"- a different listing of references must be generated and searched by the examiner. Thus a different search is shown, and restriction is proper.

In view of the foregoing, one (1) oligonucleotide sequence is considered to be a reasonable number of sequences for examination. Accordingly, if applicant elects to

prosecute the invention set forth in group IV, applicant is required to elect one (1) sequence from claim 21 that corresponds with the target region as claimed that is SEQ ID NO: 4 (claim 1). Additionally, if applicant elects to prosecute the invention set forth in group I, applicant is required to elect one (1) sequence from claim 41, including an identification and election of the corresponding the target region of SEQ ID NO: 4, as set forth in claims 42-48, which are linked by claim 1. Note that this is **not** a species election.

The inventions are distinct, each from the other because of the following reasons:

6. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). Invention I is drawn to a compound 8-80 nucleobases in length that inhibits the expression of diacylglycerol acyltransferase 2 mRNA. Invention II is drawn to a method of treating an animal by inhibiting the expression of diacylglycerol acyltransferase 2 in cells or tissues. In the instant case, the product that is Invention I can be used in a materially different process of using that product; e.g., a hybridization assay for determining tissue-specific gene expression, for example. Therefore, inventions I and II are related as product and process of use.

Furthermore, searching inventions I and II together would impose a serious search burden. In the instant case, prior art searches of an oligonucleotide sequence

and a method of using said oligonucleotide sequence are not coextensive. Search of each of these inventions would require different key word and sequence searches in different patent, non-patent literature and sequence databases and require, at least, specific searches for particular method steps of invention II not required for the search of invention I. These searches would then require subsequent in-depth analysis of all relevant prior art literature and sequence references, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform examination of inventions I and II together.

7. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). Invention I is drawn to a compound 8-80 nucleobases in length that inhibits the expression of diacylglycerol acyltransferase 2 mRNA. Invention III is drawn to a method of screening for a modulator of diacylglycerol acyltransferase 2. In the instant case the different inventions are not disclosed as capable of use together and have different functions. Invention I functions to inhibit the expression of diacylglycerol acyltransferase 2 mRNA. Invention III functions to identify compounds capable of modulating the expression of diacylglycerol acyltransferase 2. Therefore, inventions I and III are unrelated.

Furthermore, searching inventions I and III together would impose a serious search burden. In the instant case, prior art searches of an oligonucleotide sequence

and a method of using said oligonucleotide sequence are not coextensive. Search of each of these inventions would require different key word and sequence searches in different patent, non-patent literature and sequence databases and require, at least, specific searches for particular method steps of invention III not required for the search of invention I. These searches would then require subsequent in-depth analysis of all relevant prior art literature and sequence references, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform examination of inventions I and III together.

8. Inventions I and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). Invention I is drawn to a compound 8-80 nucleobases in length that inhibits the expression of diacylglycerol acyltransferase 2 mRNA. Invention IV is drawn to a method for identifying the presence of diacylglycerol acyltransferase 2 mRNA in a sample. In the instant case the different inventions are not disclosed as capable of use together and have different functions. Invention I functions to inhibit the expression of diacylglycerol acyltransferase 2 mRNA. Invention IV functions to identify the presence of diacylglycerol acyltransferase 2 mRNA in a sample. Therefore, the inventions of groups I and IV are unrelated.

Furthermore, searching inventions I and IV together would impose a serious search burden. In the instant case, prior art searches of an oligonucleotide sequence

and a method of identifying a particular nucleotide sequence are not coextensive. Search of each of these inventions would require different key word and sequence searches in different patent, non-patent literature and sequence databases and require, at least, specific searches for particular method steps of invention IV not required for the search of invention I. These searches would then require subsequent in-depth analysis of all relevant prior art literature and sequence references, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform examination of inventions I and IV together.

9. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). Invention II is drawn to a process of inhibiting the expression of diacylglycerol acyltransferase 2 using a compound that inhibits the expression of diacylglycerol acyltransferase 2 mRNA. Invention III is drawn to a method of screening for a modulator of diacylglycerol acyltransferase 2. In the instant case the different inventions are not disclosed as capable of use together and have different functions. Invention II functions to inhibit the expression of diacylglycerol acyltransferase 2 mRNA. Invention III functions to identify compounds capable of modulating the expression of diacylglycerol acyltransferase 2. Therefore, inventions II and III are unrelated.

Furthermore, searching inventions II and III together would impose a serious search burden. In the instant case, prior art searches of each method are not

coextensive. Search of each invention would require different key word searches in divergent patent and non-patent literature databases and would require, at least, searches of distinct method steps of each invention. These searches would then require subsequent in-depth analysis of all relevant prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform examination of inventions II and III together.

10. Inventions II and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). Invention II is drawn to a method of treating an animal by inhibiting the expression of diacylglycerol acyltransferase 2 in cells or tissues. Invention IV is drawn to a method for identifying the presence of diacylglycerol acyltransferase 2 mRNA in a sample. In the instant case the different inventions are not disclosed as capable of use together and have different functions. Invention II functions to inhibit the expression of diacylglycerol acyltransferase 2 mRNA. Invention IV functions to identify the presence of diacylglycerol acyltransferase 2 in a sample. Therefore, inventions II and IV are unrelated.

Furthermore, searching inventions II and IV together would impose a serious search burden. In the instant case, prior art searches of each method are not coextensive. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at

least, searches of distinct method steps. These searches would then require subsequent in-depth analysis of all relevant prior art literature, placing a serious and undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform examination of inventions II and IV together.

11. Inventions III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). Invention III is drawn to a method of screening for a modulator of diacylglycerol acyltransferase 2. Invention IV is drawn to a method for identifying the presence of diacylglycerol acyltransferase 2 mRNA in a sample. In the instant case the different inventions are not disclosed as capable of use together and have different functions. Invention III functions to identify compounds capable of modulating the expression of diacylglycerol acyltransferase 2. Invention IV functions to identify the presence of diacylglycerol acyltransferase 2 in a sample. Therefore, the inventions III and IV are unrelated.

Furthermore, searching inventions III and IV together would impose a serious search burden. In the instant case, prior art searches of each method are not coextensive. Search of each of these inventions would require different key word searches in divergent patent and non-patent literature databases and would require, at least, searches of distinct method steps. These searches would then require subsequent in-depth analysis of all relevant prior art literature, placing a serious and

undue burden on the Office in terms of both search and examination. As such, it would be burdensome to perform examination of inventions II and IV together.

12. Because these inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classifications and would require divergent searches of sequence and literature databases placing a serious and undue administrative burden on the examiner, restriction for examination purposes as indicated is proper.

13. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the

requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996).

Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon B. Ashen whose telephone number is 571-272-2913. The examiner can normally be reached on 7:30 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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